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## AN ORNITHOLOGICAL VISIT TO THE FÆROES.

BY PERCY F. BUNYARD.

(PLATE I.)

WITH only three weeks at our disposal, this journey was perhaps a rather big undertaking for so short a time; however, we succeeded in spending exactly sixteen days on the islands. I was fortunate in having secured the companionship of another known ornithologist, and was not only surprised at the amount of ground we were able to cover, but, owing to the almost perpetual daylight, always put in a good day's work. We left Leith *en route* for the Færoes at midnight on June 2nd, 1905, by the Danish Royal Mail Steamer 'Tjaldur.' After a fair and somewhat uninteresting voyage we sighted the southernmost island of Syderö at 2 p.m. on the 4th, arriving at Trangjiswaag, our first port of call, at 6 p.m. (Sunday evening). The view awaiting us as we slowly steamed up the fjord was grand in the extreme; the quaint and straggling little town, with its green turf-roofed houses, the spotlessly white spire of the kirk glittering in the evening sun, and the mountains rising over one thousand feet behind, made a fitting background for this already beautiful landscape.

It is not my intention here to again describe the beauty of the islands, neither is it possible to do justice to them in the limited space at my disposal; suffice to say, though barren and

treeless (except where a few trees have been planted in the villages), we found the islands extremely interesting, and the scenery magnificent; the people, nearly all of whom speak a little English, were most hospitable.

I have, to save any unnecessary confusion, used the names found on the map of the Færoe Islands, from the Danish Government survey, published by the Admiralty, Jan. 25th, 1901; this is the best map yet published, and is in general use by visitors to the islands.

I took a camera with me for the first time on an expedition of this kind, and, owing no doubt to the grand light, succeeded in securing a fine series of photographs; and I trust that of our first Whimbrel's nest may be interesting (*cf.* Plate I. fig. 1).

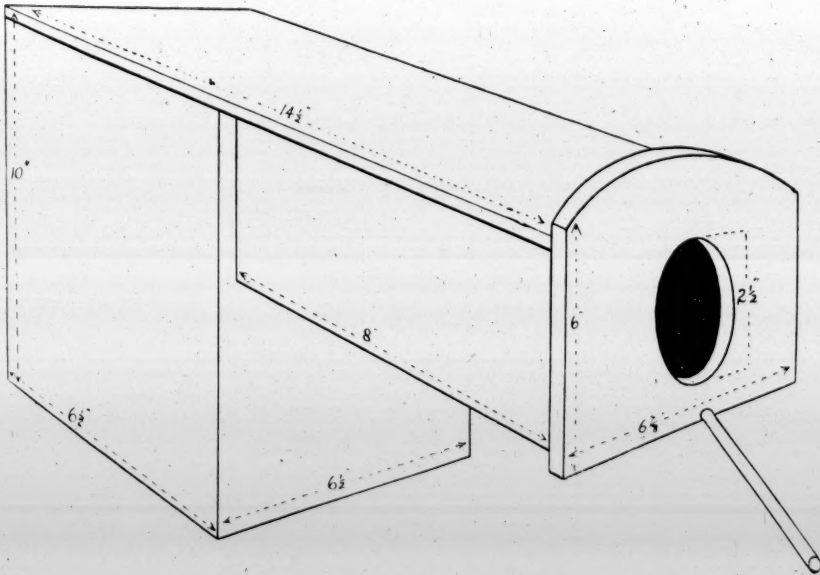
Fully prepared to rough it, we did not find things so bad as we had been led to believe, but I should strongly advise all intending visitors to take a certain amount of food with them in the way of tinned fruit and vegetables, even at the cost of an extra carrier, for it must be borne in mind that, when moving about or crossing the islands, it is almost impossible at this time of the year to obtain fresh fruit and vegetables, though at Thorshavn, the capital, one can now procure nearly anything except fresh goods. It was not our intention, owing to the very limited time at disposal, to visit the whole of the group; we therefore confined our energies to the four largest southernmost islands, *viz.*, Syderö, Sandö, Stromö, and Nölsö; also a small rocky island, Hoivig Holm, near Thorshavn. It is important that this should be well understood by my readers, for the remarks on the avifauna only apply to the above-mentioned islands. It is, of course, possible that some of the species not found breeding may do so on the islands we did not visit, more especially the northern ones. It must also be borne in mind that, owing to the Game Act of April, 1897 (Diplomatic and Consular Reports, Denmark; Report of the Færoe Islands, 1901), it was impossible for us to obtain any assistance from the natives in our ornithological research. The result of this visit is, therefore, entirely due to our own personal investigations and hard work.

I regret that we have no new species to record, neither have we anything particularly interesting to note beyond that which





1.



2.

Fig. 1.—NEST OF WHIMBREL (*Numenius phaeopus*).

Fig. 2.—NESTING-BOX IN USE AT THE FÆROES (cf. p. 86).





is already known and written on the birds of the Færoe Islands. The principal object of these notes is to bring up to date, as far as possible, the information already to hand. It will perhaps be as well to mention that only on one occasion during our visit did the weather in any way interfere with our operations; in fact, it was a remarkably dry season for these islands, subject as they are to incessant rain and mist at this period of the year.

Owing mainly to the steady increase of population, that many species have considerably decreased during the last half-century is beyond doubt.

Referring to Col. H. W. Feilden's memoir, "The Birds of the Færoe Islands" (Zool. 1872, pp. 3210, 3245, and 3277), I find he enumerates one hundred and thirty-eight species. It is my intention, with a few exceptions, to deal only with those we saw or actually found breeding. It is noteworthy that the following birds which have bred, according to previous writers, were not met with by us on the islands visited, and we consider it very doubtful as to whether they now do so, *viz.*, Redwing, White Wagtail, Tree-Sparrow, Snow-Bunting, Sky-Lark, Merlin, Grey Lag-Goose, Long-tailed Duck, Teal, Quail, Corn-Crake, Red-necked Phalarope, Dunlin, Redshank, Black-tailed Godwit, and Black-headed Gull. I may also mention the following, which on very meagre evidence are supposed to have bred:—Snowy Owl, Mealy Redpoll, King-Duck, and Turnstone. The breeding stations of the following, which undoubtedly still breed, were not visited, and we therefore had no opportunity of verifying the same, *viz.* Cormorant, Shag, Gannet, Herring-Gull, Razorbill, Stormy Petrel, and Manx Shearwater.

Nearly all the eggs from the Færoe Islands in the British Museum were taken by Herr F. C. Müller, a native of Thors-havn, and eventually acquired by the late Edward Hargatt, R.I., being finally presented to the National Collection in 1893 by that ardent and sterling naturalist, the late Henry Seebohm.

WHEATEAR (*Saxicola œnanthe*). Native name, "Steinstolpa."—This beautiful bird was by far the most abundant member of the large Order to which it belongs. Found breeding on all islands visited, though mostly confined to the valleys; we occasionally came across them on the mountain tops. Though we did not search

for the nests, it was astonishing that more were not found. One nest on Sandö contained young on June 12th, and was beautifully concealed in a hole behind a large stone. Found several empty shells about, which was evidence that incubation was complete. No opportunity was offered of seeing the large broods attributed to this species in these islands.

NORTHERN WREN (*Troglodytēs borealis*). Native name, "Mousabrouir." — We can fully endorse the remarks of Col. Feilden in regard to the song of this lively little bird. It would, indeed, not be out of place to call it the Færoese Nightingale, so much do some of the notes resemble not only in melody but in power the song of *Daulias lusciniæ*. It is almost impossible to believe that so powerful a song could come from so small a bird; it is quite unlike that of our Common Wren (*T. parvulus*). Though heard on four of the islands visited, it was seldom that we had a good view of the birds, as they were generally high above our heads on the cliffs or mountain sides. The only opportunity I had of a close inspection was at Skaalevig, while we were waiting for the carriers to take our luggage over the mountains to Sandö. We had started a close inspection of the boat-sheds and outhouses, when out flew a small bird through the entrance. It flew about ten yards, and settled on a large stone. After examining for some time with our glasses, we identified the bird as *T. borealis*. It did not require a very long search before the nest was found—a conspicuously bulky structure, though compact and well built, of straw, lined with moss and feathers. It contained five newly-hatched young. The hole was placed almost on the top, and the nest was tightly wedged in between the beam and the thatch. As our porters had arrived, we had no further time to watch this interesting species, though from what we saw I consider the bird very different from *T. parvulus*. It was much larger and paler in colour. While staying at Sand we had two eggs brought to us; they are considerably larger than the eggs of *T. parvulus*, and larger than those of the much disputed St. Kilda Wren (*T. hirtensis*). One egg is slightly larger, and the other the same size as typical eggs of the Tree-Sparrow (*P. montanus*), and are only slightly marked at the large end with fine faint red spots. These eggs are now in my collection.

MEADOW-PIPIT (*Anthus pratensis*). Native name, "Graatuj-tingur."—This species must have decreased very considerably since the visit of Col. Feilden to the islands in 1872, for he describes it as extremely abundant. We saw and heard it on Syderö, Sandö, and Stromö, but it was nowhere numerous, and only found in the valleys and cultivated spots, and then only in small numbers. We did not look for or find a single nest, though I saw one bird just fledged on Stromö on June 19th.

ROCK-PIPIT (*Anthus obscurus*). Native name same as used for Meadow-Pipit.—Seen and heard on Syderö, Sandö, and Stromö. One nest with four much incubated eggs found on Nolsö, June 17th. These birds were generally to be seen on the rocky shores, though on one or two occasions in fairly elevated spots among the mountains. We had no opportunity of verifying Col. Feilden's observations in regard to size and plumage, as no birds were taken, and they were extremely shy and difficult to approach.

STARLING (*Sturnus vulgaris*). Native name, "Steari."—Not met with on Syderö; first seen at Skaalevig, on Sandö, where several were seen about the buildings. It was not until we reached Thorshavn that this bird was found at all numerous. On the evening of our arrival we saw several small flocks flying about the town, and settling in the trees opposite the hotel where we were staying. We were informed that they were steadily increasing, for they receive every encouragement from the Færoese, and are now protected all the year by the Game Act of April 23rd, 1897. They are looked upon as almost sacred, and it would be as great a crime to shoot or kill a "Steari" in the Færoes as it is to kill a Stork in Holland. It is, in these islands, a valuable bird to the agriculturist and horticulturist. I was not able to find out to what extent the Starling takes toll of the black, red, and white currants, also the few strawberries—which are the only fruit grown on the island. The currant-bush here assumes an enormous size, and it was no uncommon sight to see them from four to seven feet high, and from two to three feet through; there was an abundance of fruit, which had just started to swell. These bushes were nearly all in sheltered positions, and there was a total absence of that destructive pest, the black currant mite (*Phytoptus ribis*), which is devastating the black currant in this

country. The most interesting thing in connection with this bird was the nesting-boxes, of which I give an illustration (Plate I. fig. 2), placed on most of the buildings in Thorshavn, and was quite the best thing I have seen in this way—made of wood and painted brown. All appeared to be occupied.

RAVEN (*Corvus corax*). Native name, "Ravnur."—We were too late for this early breeder, and were unable to make any extensive observations as to its habits and difference of plumage to our own bird. It was nowhere abundant. We saw a few on Sandö, also on Stromö; these were all on the wing, and at some distance.

HOODED CROW (*C. cornix*). Native name, "Kraaka."—Fairly plentiful, specially on Stromö, where we saw them in small flocks. Some late birds, judging from their behaviour, still had young or eggs. One nest of Whimbrel's eggs found had evidently been sucked by Hoodies. They have lost much of their semi-domesticity. Only on one occasion did we see them about the dwellings. In winter, no doubt, they are driven to their semi-domestic habits by the scarcity of food that must occur in these islands.

SNOWY OWL (*Nyctea scandiaca*). Native name, "Katula."—Neither seen nor heard of. Two badly mounted specimens in the School Museum at Thorshavn, one of recent date.

MERLIN (*Falco æsalon*). Native name, "Smiril."—Not a single specimen seen. Found the remains of a small bird which looked like the work of a Merlin, but, as we did not see this species, concluded it must have been caused by Hooded Crow (*Corvus cornix*). Should say no longer breeds. A set of three eggs from the islands are in the British Museum. ('Catalogue of Birds' Eggs,' vol. ii. p. 304; Brit. Mus., Nat. Hist.)

MALLARD (*Anas boscas*). Native name, "Vidldunna."—Some down and flank-feathers taken from an empty nest on Sandö have been kindly identified by Mr. Heatley Noble as belonging to this species. We did not meet with any birds.

PINTAIL (*Dafila acuta*). Native name, "Andt."—A pair of birds on small lake near Sand probably breed. Eggs of this species in School Museum at Thorshavn, said to have been taken in the islands.

SCAUP (*Fuligula marila*). Native name, "Andt."—One bird



seen on Sandö, June 10th. There is a set of eggs from the islands in British Museum. ('Catalogue of British Birds' Eggs,' vol. ii. p. 182; Brit. Mus., Nat. Hist.)

EIDER-DUCK (*Somateria mollissima*). Native name, "Eava."—No opportunity was offered of visiting the large colonies where they breed in great numbers. We found the birds very abundant round the shore. They did not appear to have generally commenced nesting. The only nest seen was on Stromö, June 18th, and contained three eggs and a small quantity of down. This was placed high up on the mountain side, overlooking Kalbaks Fjord, and was well sheltered by a large stone.

RED-BREASTED MERGANSER (*Mergus serrator*). Native name, "Topandt."—Seen on Syderö and Sandö. No nests found, but undoubtedly breeds.

ROCK-DOVE (*Columba livia*). Native name, "Blaadigva."—It is not surprising that we did not see more of these birds, as most of our time was spent on mountains and in valleys. One bird seen on Syderö, June 8th. They breed in fair numbers on the sea-cliffs and in the caves.

RINGED PLOVER (*Ægialitis hiaticola*).—Native name, "Svartholsa."—Seen on Sandö and Nolsö, and, judging from their behaviour, were undoubtedly breeding. This was confirmed later by Mr. Petersen, of Nolsö, who knows the birds well, and is a known authority on the birds of the islands. We found them as high up as 1500 ft. on Sandö. There are six sets of eggs from the islands in the British Museum. ('Catalogue of Birds' Eggs,' vol. ii. p. 24; Brit. Mus., Nat. Hist.)

GOLDEN PLOVER (*Charadrius pluvialis*). Native name, "Legv." Cannot now be so abundant as Col. Feilden observed it to be in 1872. Have found it quite as plentiful in Caithness and Sutherland. It was breeding on the mountain tops and in the valleys. Five nests were found, each containing four eggs in all stages of incubation. In four cases the birds were flushed almost at our feet. They appear to sit tighter than I have noticed them to do elsewhere. One nest, found by stalking, which occupied an hour before the bird went down. The plumage of this species was remarkably fine.

OYSTERCATCHER (*Hæmatopus ostralegus*). Native name, "Tjaldur."—By far the most abundant species, found practically all



over the islands visited, with the exception of the highest mountain tops. They greatly handicapped us in our stalking Whimbrel, though they were generally down and quiet long before the Golden Plover (*Charadrius pluvialis*). Always on the look-out, and the slightest movement on our part seemed to disturb all the Oystercatchers in the neighbourhood, their plaintive but musical note echoing and re-echoing throughout the valleys. It was not surprising, at this late date, to find the majority of birds with young, though eggs were found in all stages of incubation. One nest contained three eggs of a type I had not previously seen—ground colour light brown, large underlying markings of purplish grey, over markings large and of a rich brown. We did not see a nest containing four eggs, though with this species it is of fairly common occurrence. The nests, placed in fairly sheltered positions, were mere depressions in the fine shingly granite-like stone. There appeared to be a great many non-breeding birds, which we often came across in flocks of from twenty to thirty on the edges of the lakes, or on the small islands. It is very amusing to watch the sly way in which these birds leave their nests or young, appearing to keep an eye on you the whole time they are moving away.

RED-NECKED PHALAROPE (*Phalaropus hyperboreus*). Native name, "Helsareji."—We searched all the most likely places for this bird, though not a single specimen was seen; neither did we find the nest. Can it be possible that this species has ceased to breed during the last thirty-three years, or probably it has never bred in the two southernmost islands, Syderö and Sandö? The small collection of eggs in the School Museum at Thorshavn does not contain eggs of this species. It is also interesting to note that there does not appear to have been any eggs taken by H. C. Müller in the Hargitt Collection, acquired by Henry Seebohm, and afterwards presented to the British Museum. ('Catalogue of British Birds' Eggs,' vol. ii. pp. 70-71; Brit. Mus., Nat. Hist.) It is evident that Col. Feilden did not find it breeding, though he mentions it as being extremely abundant (Zool. 1872, p. 3251). We questioned one man on Sandö; he evidently knew the bird well, and was certain it did not breed, though he had seen it in spring and autumn. Should say islands visited are hardly suited to its breeding habits.

COMMON SNIPE (*Gallinago cœlestis*). Native name, "Mujres-nuppa."—Fairly plentiful, rather more so than in this country. Two nests found by flushing, each containing four eggs. One of these was placed in a rather unusual position in the side of a bank almost facing a wall. One lot of young on June 11th still in the nest.

PURPLE SANDPIPER (*Tringa striata*). Native name, "Fjadmurra."—This species was the principal object of our visit, but it was not until the seventh day of our stay that we succeeded in coming across the interesting and beautiful bird. We had, in fact, almost given up all hopes of finding it, but eventually had unique opportunities of studying its habits. Only on one of the islands visited did we find them. They must have diminished in numbers considerably since the time of Müller, and Col. Feilden's visit in 1872, for he says: "Pairs of these interesting birds are to be found breeding throughout the islands" (Zool. 1872, p. 3250). It is now a rare breeding species, though we found altogether seven broods of young; they were all confined to an area of about a square mile. We did not succeed in finding a nest with eggs. It was the evening of June 10th, on our way home, and feeling somewhat disappointed at our bad luck, that we saw our first Purple Sandpiper. I saw a bird rise and settle again just in front of me; I immediately fixed my glasses, and identified it as our long-sought-for Purple Sandpiper. I hailed my companion, who came over to me, and we immediately lay down to watch the bird, which was not more than fifteen yards away. We had not been down more than a minute or so before the bird commenced running, and after a series of these little spurts it sat down, as we thought, on the nest, but, in order to make sure, it was arranged to give it five minutes before commencing our search, when, to our surprise and disappointment, we saw a downy youngster run towards where she was then standing. After examining the bird with our glasses, we rose and approached with the intention of catching the young bird, which we succeeded in doing, and were then rewarded with one of the most pitiful sights in bird-life one could wish to witness, for never had we seen so much anxiety displayed by the parents of any other species. We were very carefully handling and examining the downy creature when the parent bird made a

series of flights towards her young, and, when on the ground, dragging her wings and making a peculiar squawking noise, coming so close to us that I could have caught her quite easily. It was then that this beautiful Sandpiper could be seen to advantage. We did not find the other members of her family, though they could not have been far off. They were most difficult to see, so beautifully did they harmonize with the surroundings, especially with the moss that is found on the tops of the mountains. It was on the following day that we found six more lots of young, and, with the exception of one set, which had not left the nest, were all apparently about the same age, and the parents displayed the same amount of anxiety as with our first experience. We very carefully examined the nests found; they were all exceptionally deep cup-shaped depressions, slightly lined with fragments of moss and dead leaves of the bilberry, and placed on the sheltered side of the mountain tops, generally at the edge of the patches of moss. On June 13th we saw three more birds, and watched them for some time, but do not think they were nesting. The disappointment at not seeing the eggs *in situ* was amply compensated for by the splendid opportunities we had of examining the birds and their breeding habits. The splendid series of eggs, nearly all taken in the Færoes, and now in the British Museum, are well worth a visit.

REDSHANK (*Totanus calidris*). Native name, "Stelkur."—We saw some eggs of this species in the School Museum at Thorshavn, but we were unable to ascertain with any certainty as to whether they had been found in the islands, though we heard that all the eggs in this collection were supposed to have been taken there. We did not find it breeding, and no birds were seen.

WHIMBREL (*Numenius phaeopus*). Native name, "Spegvi."—I must reluctantly add this to my already long list of species that may be considered to have decreased; that is to say, if I am to rely upon previous writers upon the birds of the islands. They were certainly in fair numbers, and were evenly distributed, but to call them abundant would be to exaggerate. In comparison, I have found Curlew (*Numenius arquata*) in considerably greater numbers in Westmoreland, and seen as many nests of that species

in a day as were found of Whimbrel during the whole of our visit. Not more than about a dozen nests were seen, half of which were found by stalking and hard work. Covering, as we did, so many miles in our daily rambles, it was perhaps rather surprising more eggs were not found. The eggs were in all stages of incubation, and there were a few young birds about. The nests were invariably placed under the shelter of a large stone—in one case between two stones, so that it was possible to sit over the nest without damaging the eggs. Variation in the eggs seen was considerable, both in colour and markings, the ground colour varying from pea-green to olive-green, and from pale brown to dark brown.

ARCTIC TERN (*Sterna macrura*). Native name, "Tedna."—Seen on all islands visited. On June 17th we made our second attempt to land on Hoivig Holm, a small island near Thorshavn, and this time we were successful. We found a large colony of this species breeding, but they had not finished laying, only a few nests contained a full complement of eggs. On an average the eggs were smaller than those of the Common Tern (*Sterna fluviatilis*), and were somewhat richer in colour and markings. A small colony were also found breeding on Nolsö.

LESSER BLACK-BACKED GULL (*Larus fuscus*). Native name, "Likka."—Found breeding on Sandö in fair numbers; incubation well advanced on June 13th. One nest on Stromö, with two young and one egg chipping out, on June 16th. Nowhere abundant.

GREAT BLACK-BACKED GULL (*Larus marinus*). Native name, "Svartbeåkur."—Seen on several occasions, but did not find it breeding.

KITTIWAKE (*Rissa tridactyla*). Native name, "Rida."—Seen breeding in large numbers in company with Guillemot (*Uria troile*), Fulmar (*Fulmarus glacialis*), &c., on the cliffs of Little Dimon, Store Dimon, and Skuö, as we passed in the steamer on the way from Syderö to Sandö. Seen also in enormous flocks on the lakes near Sand.

GREAT SKUA (*Stercorarius catarrhactes*). Native name, "Skuir."—I am glad to be able to record the fact that this species still breeds; but only on one of the islands visited did we find it breeding, in solitary pairs, on the tops of the mountains. On



June 11th two nests were seen, each containing two eggs; one lot in advanced incubation, the others chipping out. On the following day we found another nest containing one egg, where we had previously seen birds. The nests were placed on the long strips of moss peculiar to this elevation, which, I think, is the same variety as I have seen on the tops of the mountains in Scotland, and upon which I found the Dotterel (*Eudromias morinellus*) breeding. The birds, as we approached their nests and handled the eggs, were very demonstrative. In their downward swoops they came quite close to us. I was much impressed on this my first acquaintance with the handsome bird.

RICHARDSON'S SKUA (*Stercorarius crepidatus*). Native name, "Tjegvi."—Seen on Syderö, Sandö, and Stromö. Though we did not find them breeding, they undoubtedly do so. We did not pay much attention to them. On one occasion we saw a pair being mobbed by Whimbrel, as they approached too near the spot where we afterwards found a nest containing eggs. There are twenty-nine eggs in the British Museum. ('Catalogue of Birds' Eggs,' vol. ii. p. 227; Brit. Mus., Nat. Hist.)

GUILLEMOT (*Uria troile*). Native name, "Lomvia."—Breeds in countless thousands. Two large boxes of eggs were brought up to the British Consulate on the day of our arrival at Thors-havn on June 14th. Large numbers of these eggs are consumed by the natives, and one constantly came across the empty shells lying about the dwellings. A fine egg of the red type is in the School Museum at Thorshavn.

BLACK GUILLEMOT (*U. grylle*). Native name, "Tajsti."—Birds frequently seen when on the shore, but we did not look for or find its breeding haunts.

PUFFIN (*Fratercula arctica*). Native name, "Lundi," which is pronounced more like "Lunta."—On June 17th we visited Nolsö, and were taken to a breeding-station of this species, where we found eggs in all stages of incubation right under and among the large boulders. Amongst these we had to grope; sometimes the birds were taken on the eggs, on others they shuffled to the back of the hole, leaving the eggs exposed to view. During this rather unpleasant occupation we were attacked by parasites which infest these birds, and it was not until after some days that we succeeded in getting rid of them. On several occasions



we dined off these birds, and I must say found them very excellent eating. Only the breasts are served up; they are skinned, after having the wings, back, and legs cut off, parboiled, then roasted or grilled. There was a total absence of any fishy taste. The flesh looks and tastes very much like Capercaillie (*Tetrao urogallus*).

RED-THROATED DIVER (*Colymbus septentrionalis*). Native name, "Loumur."—One bird seen, on June 9th, on a lake on Sandö. On June 13th saw a bird of this species leave a small lake on Sandö; after a successful search we succeeded in finding a nest containing two eggs. This was placed rather high up on the bank, and was in a much drier condition than I have found it in Scotland, where it is more plentiful.

FULMAR (*Fulmarus glacialis*). Native name, "Heavhestur."—Seen breeding on the cliffs on Syderö and Nolsö. From one position on Nolsö I could see, with my glasses, the eggs on the ledges. Appears to be well established throughout the islands.

## ANGLESEA BIRD-NOTES.

BY S. G. CUMMINGS AND CHARLES OLDHAM.

IN the latter half of June, 1905, we spent a week at Bull Bay, on the north coast of Anglesea. Our chief object was to visit the breeding-place of the Arctic and Roseate Terns at the Skerries, which for various reasons we had been unable to do in three previous years. The rocky islets which constitute the Skerries—or, to give them their Welsh name, Ynysoedd Moelroniaid—are situate two miles north-west of Carmel Head, and about eight miles north of Holyhead. They are familiar objects to passengers on the Cork boats, and the deep-sea craft which pass close inshore along the north coast of Anglesea on their way to and from Liverpool, but are seldom visited, and, save for the light-housemen, are uninhabited. Indeed, a trip to the Skerries, whether from Holyhead to the south, or from Cemmaes or Bull Bay to the east, is not one to be lightly undertaken. It is only possible to land in calm weather, the currents run strongly between the islets and the mainland, and there must be a favourable conjunction of wind and tide to enable one to reach the place at all in a sailing-boat. The evening of June 22nd was wonderfully clear, and up to 10.15 we could from the cliffs at Bull Bay see the broken outline of the Manx hills, forty miles away, silhouetted plainly against the sunset. Our boatman augured that if the light easterly wind held the tide would serve at four o'clock, and we might reach the Skerries on the ebb, to return with the flood. We put out from the little harbour at Porth Llechog in the grey of the morning, sailing and drifting—for the strong tide helped us when the wind failed—westward along the coast, whose sheer cliffs topped by heathy brows are among the finest in North Wales, and seen to the greatest advantage from the sea. Skirting Hell's Mouth—the ill-omened bay where an offshore wind sweeping down through a gap in the low hills

gives rise to sudden squalls—we passed to seaward of Ynys Badric with its colony of Herring-Gulls, whose breeding-place we had invaded two days before.

We had seen Guillemots, Razorbills, Puffins, and Manx Shearwaters, but only an occasional Arctic Tern until we left Ynys Badric astern. In the seven miles which still separated us from the Skerries the Terns became increasingly plentiful as we drifted westward, and when we neared the islands we saw that they were peopled by thousands of the birds. Terns flocked every patch of green turf with white; many were standing in crowded groups on the rocks below high-water mark, whilst others were fishing in the tide-race close inshore. This must be one of the largest colonies of Arctic Terns in the British Islands. The number of birds on the wing together when seen from a point of vantage was extraordinary, and constituted a curious and beautiful sight. The Common Tern does not occur here except perhaps as an occasional straggler.

The Skerries comprise three main islets, on the middle one of which is the lighthouse, and a number of smaller stacks accessible from the others at low water; the whole group is about a third of a mile in length. There is a good deal of turf, honeycombed with Rabbit-holes, and in places a fair amount of short grass—at one spot there is a large patch of sorrel—but the greater part of the area is bare, or at best lichen-covered rock, and there is but little of the scurvy-grass and *Atriplex* which abound on most of the Anglesea stacks.

The lightkeepers told us that there were not many Rats on the islands, and that those were small black ones with long tails. We were unable to procure one, but the description suggests *Mus rattus*, and it is probable that a colony of Black Rats exists here, the descendants of castaways from a wrecked ship.

At the place where we landed two adult Kittiwakes were standing on the rocks with a number of Terns, which seemed quite indifferent to their presence. On one of the outer stacks a small party of Herring-Gulls were resting, but the lightkeepers assured us that the Terns will not tolerate these robbers near their nesting-places. A few pairs of Oystercatchers breed on the islands, but the Terns practically monopolise the place. We saw neither Rock-Pipit nor Wheatear, though there was a solitary

Blackbird, which looked rather out of place with never a bush to shelter in. It is probable that many Arctic Terns had not yet laid. Hundreds of nests only held single eggs; more had two; here and there was one with three, and in two instances there were four eggs—undoubtedly the produce of two pairs. The nests were spread over the whole area, and were in a variety of situations, some close to the lighthouse buildings, others on the bare rock or amongst the sorrel, but the patches of short grass were the most favoured. In many cases no nest at all had been attempted; a hollowed depression in the turf or a natural one in the rock served to hold the eggs; in others a slight nest had been made of a few grass-stems, lichens from the rock, or not infrequently a collection of dry Rabbit-dung. The birds were tame, and settled again after being disturbed so soon as we retired for a few yards. It was very hot, which perhaps accounted for the Terns not brooding very closely, for often all the birds in one district, whether they were brooding, standing on the turf, or hovering about their stationary companions, rose simultaneously, and flew low over the turf and beaches and out to sea in a thick grey mob, returning in a few seconds to settle on their nests, or on the turf or rocks, as the case might be. This happened once when a foraging Peregrine passed along the coast-line at a slight elevation, though its presence probably had no connection with the Terns' action; it certainly was not the cause of it on other occasions. The alarm-note of the Arctic Tern is subject to considerable variation—"kare," "kaah," or "kee-ah," but always quite distinct from the long-drawn "pirre" or "pee-rah" of the Common Tern. Another note is a thrice-repeated "tchick," and now and then we heard a Hawk-like whistling scream. Some Arctic Terns stooped repeatedly in a bullying fashion at a Roseate Tern which was standing beside its sitting mate, but they did not actually touch it. There were seven Arctics brooding in close proximity to the Roseates, but these sitting birds showed no animosity, and at any rate tolerated the presence of their congeners. The telegraph-wire crossing the islets is a source of danger to the Terns; one dead bird lying beneath it had one wing cut clean off, and two others were struggling on the ground with broken wings.

The Roseate Tern is not abundant on the Skerries. It is



impossible to give its numbers exactly, but at a rough estimate there cannot be more than one pair to six or seven hundred or perhaps a thousand pairs of the dominant species. In June, 1902, when one of the writers visited the place, there appeared to be about the same number as now. The birds were not segregated, but scattered among the Arctics all over the occupied area, though at one spot there were three pairs close together. We watched two birds on their nests, their mates standing beside them. One was brooding on two, the other on a single egg. The two eggs were on a few pieces of green sea sand-spurry (*Spergularia*) in a narrow cleft in the rock-floor, into which the bird appeared to be wedged when seen from a short distance. The single egg was on a slight nest of dried pieces of spurry, also in a cleft in the rock.

Normal eggs of the Roseate Tern are easily distinguishable from those of the Common and Arctic Terns, although the contrary has been frequently asserted. They are usually more elongated; the ground colour is creamy buff, varying in tone in different specimens; the markings are small, irregular, reddish brown spots and streaks, usually distributed evenly over the whole shell, but sometimes densest at the thicker end, where they form an indistinct zone, and numerous underlying grey spots and blotches; the dark markings have very often a "run in" appearance on the ground colour, and are very characteristic. It may be that abnormal eggs of the Roseate sometimes approach in character certain types of the Common and Arctic Tern, but it is very doubtful if the converse ever occurs. The Roseate Tern shows a marked preference for rocky ground whereon to lay its eggs; these are generally in a cleft in the rock with some pretence at concealment. Two eggs seem to be the usual number, though one is not infrequent—three are exceptional; the number, however, may vary in different seasons and localities.

In the clear light of early morning, with the sun's level rays striking the flying birds, the grey on the breasts of the Arctics and the pink blush of the Roseates was quite apparent when the birds were viewed in an advantageous position; but in many lights it is impossible to distinguish the different Terns, whether Arctic, Common, or Roseate, by the colour of the breast as the



birds drift in an ever-shifting cloud above one's head. The black bill and the long streamers of the Roseate Tern are characters more readily recognized, especially when the birds are on the ground. This species does not raise or depress its wings so much as the Common and Arctic Terns, and its flight consequently appears to be more buoyant, though this may be due in some measure to its more elegant shape. The notes of the Roseates—the harsh “craak” of alarm and the call-note “chewick”—were easily discernible in the babel of the Arctics' voices, and are perhaps the best means of focusing attention on the birds when they are flying in a vast company of other Terns. The Roseate, however, is a more silent bird than the Common or Arctic Tern.

It is a matter of common knowledge that the Roseate Tern nests on the Skerries—we have no intention of revealing the exact locality of a second colony in another part of Wales, known, we believe, to only a few ornithologists—but the inaccessibility of the place has secured the birds in some measure from the rapacity of egg-collectors. It is, however, a deplorable fact that in the past the lightkeepers have been induced, sometimes by the payment of considerable sums, to obtain eggs. The extent to which one collector has engaged in this abominable traffic merits the strongest condemnation. To expose him would serve no useful purpose, as, happily, a better state of things now obtains. The Roseate Terns are under supervision, and all who are really interested in our avifauna may hope that, with the protection now afforded it, the bird will increase in this, one of the very few places in Britain where it still breeds.

Ynys Amlwch (the East Mouse) and Maen-bugail (the West Mouse) are bare stacks of no great height, washed over by high tides, and support no colonies of sea-fowl. Ynys Badric (the Middle Mouse), largest of the three, is a steep rocky stack which rises from deep water about half a mile from the bold headland to the east of Cemmaes Bay, and midway between the other two islands. Its summit, clothed with thick beds of scurvy-grass and *Atriplex*, accommodates about a hundred pairs of Herring-Gulls. As our boat came to anchor under the lee of the island on the afternoon of the 21st, we could see young Herring-Gulls running about in all directions on the rocks and in the herbage,

while the old birds swung in a screaming cloud above them. Among the Herring-Gulls were a pair of Lesser and two pairs of Greater Black-backed Gulls, the deep angry "ugh, ugh" of the larger birds being audible in the general clamour. When we scrambled up the stack the young birds crouched in the herbage, or on the lichen-covered rocks, remaining for the most part perfectly still until we picked them up, though now and then one, older than its fellows and more sure of its feet, would run before us until it fell sprawling into some crevice, or over the edge of the plateau to find safety on the rock below. There were Herring-Gulls' nests with two or three eggs, mostly chipped for hatching, and young in all stages, from downy nestlings just out of the shell to those with the brown feathers of the mantle and under parts well grown, almost able to fly. The young birds appear to leave the nest as soon as they are hatched, crouching a few inches away from the shallow untidy structure of dried grass and herbage, a habit common to the Black-headed and Greater Black-backed among other Gulls. We found the young of both pairs of Greater Black-backed Gulls crouching in the scurvy-grass. Their primaries were not yet showing, but the birds were much larger than Herring-Gulls in the same stage of growth, and bolder, running and calling loudly when we disturbed them. Their legs were stouter in proportion, and their beaks shorter and stouter than those of the Herring-Gulls, whilst their heads were rather greyer. They disgorged what appeared to be the flesh of some mammal or bird—pink, loose-fibred, half-digested stuff—possibly the flesh of young Herring-Gulls; there were several dead nestlings on the rock, and the old Black-backs would have had no need to kill living birds if such food were to their liking. The young Herring-Gulls we handled ejected fish and fragments of Crabs in their fright. As is always the case in a Herring-Gull colony on the Welsh coast, there were many pellets of small broken Mussel-shells lying about; and near one of the Black-backed Gulls' nests a pellet formed of the remains of a full-grown Water-Vole.

During our week of enforced waiting for a chance to reach the Skerries, we met with many birds along the coast. To give a list would be superfluous in view of the recently published account of the birds of this district, and it will suffice to speak of a few

of the more interesting species.\* From Point Lynas in the east to the Skerries in the west there were Guillemots, and in lesser numbers Razorbills and Puffins, fishing, or flying westwards in strings low over the water. Assuming that these were breeding birds, they must have travelled considerable distances to their feeding-grounds, for the nearest Puffin colonies are on Puffin Island and the cliffs near the South Stack, eighteen and sixteen miles away respectively. We saw many Manx Shearwaters. The nearest known breeding-station of this species is fifty miles off, on the coast of Llyn. The Shearwaters often settled on the water, and seemed to be as indifferent as the Auks to the proximity of our boat as we sailed close past them. It is an easy matter to distinguish the Shearwaters on the wing at a distance from the Guillemot, Razorbill, and Puffin, whose hurrying flight is effected by continuous rapid wing-beats. The Shearwater proceeds by a few rapid wing-beats succeeded by an interval of sailing on rigid wings, and, if the sea be rough, it tilts its body so as to show the black upper parts at one moment and its white under surface at the next as it skims close over the crests of the waves. We saw three Gannets fishing close inshore on different days; an adult and two immature birds in different phases of plumage.

A Chiffchaff—rare in North Anglesea—was singing in some bushes on the cliff at Porth-y-Gwichiaid, south of Point Lynas, and we heard another in the shade trees at Llaneilian rectory.

A pair of Ravens, whose nest on a precipitous cliff had been robbed in the early spring, had built another nest about a hundred yards from the first, and had succeeded in getting off their brood at the second venture. When we visited the place the two old birds with three young ones were on the steep hill-side above the cliff. One of the old Ravens—a ragged creature compared with the young birds—flew to and fro along the cliff-face; its throat-feathers stood out like quills, a character not noticeable in the young. Herring-Gulls mobbed it, and a male Merlin, one of a noisy pair which had young near at hand, dashed at it several times, and once actually struck it, but provoked no retaliation beyond a croak, which was the case, too, when a Herring-Gull pursued the big cowardly bird too hotly. A pair of

\* Cf. "Notes on the Birds of Anglesea" (Zool. 1904, pp. 7-29).

Barn-Owls were nesting in a crevice in the ivy-clad cliffs at Porth Wen.

The Merlin is a common bird in North Anglesea. A pair were nesting near Point Lynas, and we found four nests on the brows above the cliffs between Cemmaes and Bull Bay. One, on an old footpath overhung by the strong growth of ling through which it passed, held five young birds perhaps a fortnight old. This nest—a flattened heap of ling—was much defiled by the excreta of its tenants, and the sodden feathers of a Greenfinch, a Song-Thrush, and other small birds; close to it were the remains of two plucked House-Sparrows. The little Merlins hissed and called—a faint echo of the old birds' whistling scream—when we handled them, snapping and striking at us with their talons. They were covered with grey down, except on the head, where the down was pale buff. The primaries were just bursting their quills; bill pale lead-colour; cere yellowish horn; legs and feet dull pale yellow; iris dark brown, pupil blue. The old birds were vociferous while we were near the nest, as is their wont even before the eggs are hatched; behaviour different from that of the Kestrel, which is usually silent under similar circumstances. We had seen several Kestrel's nests with young during the previous few days, but only once had one of the old birds screamed. The second Merlin's nest was a fairly substantial mass of dead ling concealed in a thick patch of the living plant. The four young birds were not actually on the nest, but on the ground near it; the place was foul with excreta and feathers, as in the first case. In this brood the primaries and rectrices showed plainly; all traces of the pale buff which characterizes very young birds had disappeared, and the down on the head was of the same pale grey as on the body. Two of the four had their pink tongues tipped with a large greenish-grey scale, as all in the first brood had; in the remaining two this scale had apparently been shed. The birds, rather older than the first lot, were also fiercer; they threw themselves on to their backs, and fought savagely with beak and talons, screaming and hissing the while. On the following day (June 21st) we put up a hen Merlin which was brooding on four eggs in a fairly substantial nest of ling and moss at the cliff edge; she clamoured as long as we were near the nest. Two days later the cries of a pair of Merlins prompted



us to search for their nest in a large patch of ling on one of the headlands where there were scattered remains of House-Sparrows, a Pied Wagtail, and several Sky-Larks. On the verge of the cliff itself, overhung by ling, was an old Carrion-Crow's nest, and in it two young Merlins with rectrices just showing, and two addled eggs. The Crow's nest, which was much flattened, looked as though it had been occupied by the Merlins in previous years. These birds frequently occupy the same nesting-site year after year. Kestrels commonly lay in disused Crow's nests, but their appropriation by Merlins is very unusual—on the Anglesea coast, at any rate.

One evening from the high road near Bull Bay village we heard, in a field of mowing grass, a curious monosyllabic note, "eek" or "peek," not unlike a certain note uttered by the Lapping when on the ground in the pairing season, but louder. The noise continued, and the grass moved at the place whence the sound came. When we reached the spot, a few yards distant from the road, a Corn-Crake rose, and flew with dependent legs low above the grass, into which it dropped a few yards away. The bird left a nest with twelve eggs—one of which was broken—and appearances suggested that a Rat or some other animal had been in the act of looting the nest when we heard the alarm-note. If such was the case the Corn-Crake had, judging from the commotion we had seen in the grass, resisted the attack by active measures in addition to cries of alarm. The nest was a slight mat of grass-stems and fibres, which had evidently been gathered green.

Nesting Wheatears are singularly rare on the North Anglesea coast; any that attempt to breed are probably killed sooner or later by Merlins. We saw one old bird with a brood of young on the cliffs near Amlwch. At Freshwater Bay, near Point Lynas, we flushed a Grasshopper-Warbler, our attention being called to it by the thin alarm-note, "tchick, tchick," a cry quite as difficult to locate as is the "song."

On June 22nd we revisited a nesting-place of the Peregrine on the south-west coast. The falcon greeted us with angry clamour when we were some three hundred yards from the precipitous cliff where the eyrie is. She circled over the cliffs and bay for more than an hour without alighting, barking



fiercely all the time. We searched the cliffs in vain for the eyrie, the falcon being in close attendance wherever we went, and had given up hope of finding the young when we caught sight of one perched on a rock jutting from the cliff-face. It was well feathered, and no doubt well able to fly, although tufts of down still showed on its wings, head, and thighs. It uttered no sound, but stood bolt upright, and turned its head from side to side to watch its mother as she soared above. We only saw the tiercel for a minute or two, when we first got to the bay. On the cliffs in the immediate neighbourhood we found the bones of the head and torn fur of a half-grown Rabbit, a partly eaten Moorhen, and the scattered feathers of a Stock-Dove, a domestic Pigeon, and a Blackbird.

Near Bull Bay, on June 24th, we flushed a Partridge from a nest containing sixteen eggs close to the edge of the cliff. There was a well-worn run in the turf leading to the nest from the rising ground above.

One of the writers (S. G. Cummings) visited this district (the north coast) in March, 1905. The following additional notes relate to a few of the birds seen between the 18th and 27th of that month:—

**MISTLE-THRUSH.**—Several nests were built in thorn-hedges by the roadside four or five feet from the ground, in sites similar to those usually chosen by the Song-Thrush. One nest was decorated externally with several white feathers of the Herring-Gull; another was composed almost entirely of long green moss, matching the green lichen-covered boughs on which it was built.

**GREY WAGTAIL.**—One seen at Porth Wen Bay, and one at Freshwater Bay, near Point Lynas, feeding on the rocks at low water. One heard near Llys Dulas, and another seen on a stream near Cemlyn Bay.

**LESSER REDPOLL.**—A party of five on the wing near Llanfechell.

**CORN-BUNTING.**—In flocks about the farmyards; many singing.

**SNOW-BUNTING.**—Three on the wing near Point Lynas, on the 20th.

**SHAG.**—Two or three were sitting on freshly-built nests near Carmel Head, where we have seen them in former years.

POCHARD. — Two—females or immature birds—on Llyn Geirian.

COMMON SCOTER. — An immature bird frequented Porth Wen Bay for several days.

RINGED PLOVER. — Two or three pairs at Llyn Geirian. The bird probably breeds on the shores of this lake, where we have seen it on previous visits.

GOLDEN PLOVER. — One at Carmel Head, on the 23rd.

TURNSTONE. — A party of twenty or more at Hen Borth, near Llanrhwydrys.

COMMON GULL. — Numerous on the fields inland. Over two hundred resting on the rocks in Porth Wen Bay late one evening.

LESSER BLACK-BACKED GULL. — Three in adult plumage on the Middle Mouse; a pair at Llyn Geirian.

KITTIWAKE. — About a dozen on the water below the cliffs at Llanbadrig; many in immature plumage.

GUILLEMOT. — One in summer plumage fishing off the cliffs near Porth Wen Bay.

## REMARKABLE CHANGE IN HABITS OF THE HERRINGS VISITING KILLALA BAY, CO. MAYO.

By ROBERT WARREN.

THE Herrings visiting Killala Bay in the harvest and autumn seasons have, since 1899, changed their habits very considerably. Up to that date the principal fishing took place in the open bay, and if a few schools entered the estuary they remained only for a few nights, while any boats that followed them took but a few hundreds, and in consequence all the boats fished in the bay, the estuary fishing being profitless. However, in 1899, there was a large run of Herrings into the estuary, and great numbers were taken (even high up the tidal parts of river) for about three weeks. The following season they again came in, and remained longer, and fine catches were made, while the bay fishing declined; and thus each season the estuary fishing improved, while that of the bay became worse and worse, until the last two seasons, when the fishing was nearly altogether confined to the estuary, the fish coming in about the last week of August, or first week of September. In 1904 the fish appeared in the bay the last week of August, but did not enter the estuary until Sept. 15th, when some small schools showed, though the great rush of fish did not begin until the 26th, and continued up to Nov. 21st, when the Herrings cleared out of both river and estuary with the heavy gale of that date. Yet some schools lingered on in the bay, especially at the Kilcummin side, and some Herrings were taken on Dec. 12th and 13th, and even as late as Jan. 8th some were taken between Kilcummin and Rathfran Bay on the western side. The Herrings were caught night after night, even on the upper reaches of the river, and as the estuary is so well sheltered by the Island of Bartragh from the seas of the bay, and the weather being calm and fine, every sort of boat was out, from the large yawl, with its crew of six or eight men and its train of six nets, to the little punt, or dinghy,

with its two men or boys and one or two nets. All were successful, and the earnings were very large, for it was a veritable harvest to the fishermen, with a minimum of trouble or hardship, so different from the bay fishing.

In the season of 1905 the Herrings came into the estuary about Sept. 7th, and were taken in very large numbers nearly every night up to Nov. 27th, when they left the estuary with a heavy gale from the north-west. The Herrings enter the estuary evidently for the purpose of spawning, and remain for some time afterwards, as if the feeding was better inside than in the bay; and they were also *safer* from their usual enemies, which did not follow the schools into the estuary from the bay.

It was strange that the best fishing took place on the *ebb* tides, very few being taken on the flood, apparently showing that during the flood and high tide the fish spread in to feed over the shallow parts of the estuary, and then on the ebb collected in the deeper water of the channel where they were taken.

The chief fishing-ground was the open reach of the river between Moy View and Roserk, extending from Goose Island to some distance above Castleconnor. It was a most interesting sight on a calm evening to see the smooth surface of this wide sheet of water ruffled by the rising fish, giving it an appearance as though a heavy shower of rain was falling, while the sound caused by the Herrings striking the water was quite similar to that of a heavy shower. I used frequently to walk down to the shore to look at the boats, some taking the fish within fifteen and twenty yards of the beach; and one evening when the fish were near the bank, one of the boats left their nets anchored, and rowed close along the shore, beating the water, so as to drive the fish from the shallow water into their nets, a plan that succeeded, and they got a fine haul, for on being alarmed the Herrings all rushed for the deeper water where the nets were stretched. Some of the large boats used to take from three to five thousand, and the smaller boats in proportion to the number of the nets. I saw one small boat with only three nets bring in two thousand five hundred Herrings for one shot of their nets. The earnings of the fishermen were very considerable, one man, the owner of a large yawl and six nets, told me that during the run of Herring he received £154 for the fish taken inside the estuary, but then he



had all the earnings, for his crew was composed of his sons, so all the money came home. A boatman in a small way told me that he made £50; in fact all the boats, small or large, did very well.

On the 9th of November I had a most amusing encounter with some large schools of Herrings as I was returning from Bartragh in my shooting punt. When I got to Goose Island I was surprised at seeing a lot of Gulls and Cormorants dashing into the water and diving at the mouth of a little narrow "gut," or channel, running from Roserk Island between the sands and the shore of the mainland. On hastening up, I found the Gulls very excited, and saw the water at the mouth of the "gut" at times quite broken by the masses of Herrings rushing madly about as they passed down. I landed on the bank, and waded out as far as my long boots allowed, right in the middle of the Herrings, school after school passing down and striking my legs as if stones were hitting them. The little channel looked as if paved with Herrings, and the cause of the commotion among them when they rushed about so madly was the fish on the outside of the schools forcing those next the bank into the shallow water. These, unable to force their way at once into the deep water, plunged furiously about in all directions, even sometimes on to the dry sand, and eventually floundering out to the deep water again. I got a few, but if I had had a landing-net, I might have filled my boat while they were passing.

## NOTES AND QUERIES.

## MAMMALIA.

Melanism in the Bank Vole (*Microtus glareolus*).—On Feb. 23rd I received for identification from Mr. A. A. Thompson, Ellesmere, Salop, a "Mouse" that had been taken when opening a potato-tump in his garden the previous day. It proved to be a Bank Vole, but of a most unusual colour, the entire animal being of a dull brownish black. It is being mounted for Shrewsbury Museum, and another similar one taken at the same time and place is to be placed in Ellesmere Museum. I have not heard of any previous case of melanism in this species, but the colour of the fur varies considerably, especially the under parts. Examples received from Bala are clear yellowish white; others from Bangor dirty grey.—H. E. FORREST (Hillside, Bayston Hill, Shrewsbury).

*Mus flavicollis* in Suffolk.—In our church here we found recently that some marauder had bitten the blossoms from the chrysanthemums in the vases, nibbled the hangings, and been "mischievous" (as we say in East Anglia) in divers ways. A trap was set, and the culprit proved to be *Mus flavicollis*. This specimen, which was sent in the flesh to York Museum, is the seventh which has come into my hands, including that described at length by Mr. Southwell in 'The Zoologist' for 1903 (p. 150). None of these could be called intermediate between the common *Mus sylvaticus* and the true *Mus flavicollis*, for the latter really looks, as was remarked of this example, "like a little Rat."—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

## AVES.

Mimical Song of the Blackcap.—During a fortnight of July last year I was much entertained by a Blackcap (*Sylvia atricapilla*), which used to start singing just outside my bedroom window at about 6.30 every morning. I have always been a great admirer of the Blackcap's song, but this one was much finer than any I had ever heard before, the notes being so loud and clear. The chief interest, however, in the

song was the number of borrowed notes of other birds. It often started with the most perfect Blackbird's notes, then before one had realized the change it had merged into that of the Thrush, and ended off with the usual Blackcap's phrase. At other times the Blackbird's and Thrush's notes were more prolonged; and again the bird would begin with its own song, but would bring into the middle of it one of the well-known notes of the Nightingale. But there was yet another note which puzzled me for several days, and it was not until I had actually seen the Blackcap singing it that I would believe this species was capable of such mimicry. It was an attempt at the Great Tit's "ze-wit, ze-wit" (repeated some eight to ten times), but without any of the metallic ring that the Great Tit always gives it. As I had never heard of the Blackcap as a mimic, I naturally thought of the possibility of this bird being an Orphean Warbler; however, after a great deal of trouble (as the bird was very shy), I satisfied myself with the help of opera-glasses that this was not the case.—NORMAN H. JOY (Bradfield, near Reading).

**Colour of the Eyes in *Coccothraustes vulgaris*.**—In my 'Catalogue of Shropshire Birds,' published in 1897, occurs the following passage:—"In 1891 I caught a young Hawfinch at Caynton, which I brought up by hand and kept for a couple of years. I always noticed that, when angered, his irides were suffused with a much deeper purplish red tint than when he was quiescent." And in a footnote add, "I never saw the irides of a living Hawfinch greyish white, such as one sees in stuffed specimens, and which colour is only assumed at death." I write this because it bears out the interesting remarks of the Rev. Maurice C. H. Bird on the colour of the eyes in *Fuligula nyroca*. Unfortunately authors do not always confine their errors to colour of the irides.—G. H. PADDOCK ("The Hollies," Haygate Road, Wellington, Salop).

**Increase of Goldfinches.**—I have only recently seen the December number of 'The Zoologist' (1905), and notice (p. 463) notes upon the increase of the Goldfinch in Middlesex, Herts, and Bedfordshire; in the latter county this fact being accounted for by the species being scheduled for several years. In the Scarborough district the Goldfinch, usually a rare species, has been much more abundant during the past twelve months, and many nested last spring. I heard of three nests actually within the borough boundary, and of a score or more without it, and of these only one was destroyed—all the others safely fledging the young birds. The Goldfinch receives no special protection in this district, therefore the increase in numbers cannot be attributed to this

cause. I heard of a pure white one being seen a few days ago.—  
W. J. CLARKE (33, Nelson Street, Scarborough).

**Brambling in Surrey.**—Although the Brambling (*Fringilla montifringilla*) cannot be called a common bird in Surrey, there can be little doubt that some probably visit the county every winter. But one may spend a good many years observing birds without noting one. This winter, however, they are extraordinarily abundant in this neighbourhood, especially on the North Downs between Guildford, Dorking, and Leatherhead. Mr. Bucknill, in his 'Birds of Surrey,' records certain winters as "Brambling years" in Surrey, and it may therefore be worth noting that this winter appears to be one of these, as was 1835-6, 1863-4, and 1892-3. It would be interesting to know whether unusual numbers have visited the whole country. They are almost always in company with flocks of Chaffinches under beech trees, but their light rumps render them conspicuous at a great distance. There are unverified reports of this species having nested in Surrey, and so the date of their departure and the fact of any remaining through the summer would be of interest.—HAROLD RUSSELL (Shere, Surrey).

**Cuckoo's Egg in Nest of Twite.**—My thanks are due to your many correspondents who have not allowed my note on the Cuckoo's egg found by one of my sons in the nest of a Twite (*cf.* 'Zoologist,' 1904, p. 315) to pass without comment, and I quite reciprocate their spirit in so far as it is their wish to canvass facts and sift evidence. Especially is this the case in the present instance, where there appears to have been such *prima facie* evidence in support of your correspondent's position. For forty years and upwards I have been acquainted, and intimately acquainted, with the habits of this interesting bird, as the high moors (1000 ft.) almost girdle this place, and, being within easy access, I have spent much of my leisure hours in the haunts of the Twite. It nests occasionally at lower altitudes near this village, but perhaps more rarely than formerly; indeed, on the high ground it is not so numerous during the breeding season as in former years, but I had attributed this to the opening out of some quarries. But Mr. Ellison, of Steeton, informs me it is much less common than in former years in his district, where the conditions have not changed, and it would be interesting to know whether this relative scarcity is of local application, or applies to a wider area in its distribution in the nesting season. There is no falling off in its numbers, however, in its visit to this district after the breeding season—immigrants I take them—where they may be seen in immense flocks on the roadside and waste places



wherever weeds abound, especially plantain and shepherd's-purse, to whose seeds they are very partial. Although so well acquainted with the nests of the Twite, I have never yet found a Cuckoo's egg deposited in the nest of this species. When my son told me of his having found the one referred to in my note I was much surprised, but never for a moment questioned the truthfulness of his statement. I fear, however, in making the bare announcement I presumed too much upon your readers looking at the matter from my view-point. I wrote recently to Mr. James Ellison, referred to by my friend Mr. H. B. Booth ('Zoologist,' 1905, p. 432), whose experience of the habits of the Twite is almost unique, and he informed me that he has found the egg of the Cuckoo in the nest of the Twite at least in six instances—in one case in a clutch of white eggs; but further adds that he has never found the egg deposited in nests built on the more exposed and extensive tracts of moorland, but always in one particular locality where there are a few patches of heather of a few acres in extent. He writes that three years ago he had for the first time a splendid view of a young Cuckoo ejecting young Titlarks and eggs from the nest. It had only been hatched a few hours, and it was wonderful to see the way in which it heaved the young Titlark out of the nest. It climbed up the side of the nest with the young Titlark on its back, raising itself in a backward manner by fixing the hooks of its rudimentary wings into the body of the nest, gradually drawing itself up step by step, just as one does in mounting a flight of steps. On two occasions he had taken two eggs of the Cuckoo out of Titlark's nests; in both cases he thinks they had been laid by different birds, as the eggs differed both in colour and shape. The last two eggs I found, which were also deposited in the nest of a Titlark, were so very similar, and differed so widely from the type usually found in this district, that I was almost forced to the conclusion they were the product of one female. It is very significant that Mr. Ellison should have found the egg of the Cuckoo only in those Twite's nests which were built in isolated patches of heath away from the wilder parts of the moor. It is curious that the egg found by my son, recorded at the head of this note, was in a nest forming part of a colony which has established itself at some distance from the main body, and at a considerably lower altitude, perhaps 300 ft., and which build on the ground among the bracken. Never once have I found the nest of this species built on the ground on the high moors immediately surrounding this village. This local variation of habits of birds is a most interesting feature in their economy. The Mistle-Thrush here seldom builds its nest except in trees; whilst in the next valley (Wharfe), in its upper part, it is not

an uncommon occurrence to find it nesting in walls, even in the vicinity of moors. The Wheatear here almost always breeds in old walls; further away in the wilder parts of the district, it frequently makes its nest in a hole in the ground. The Hawfinch, too, in this district, has well defined local nesting habits. The Ring-Ouzel nests occasionally here in trees; probably it does so in many other places, but I have never been so fortunate as to discover such nests. I fear Mr. Allan Ellison is mistaken if he supposes that the Twite is generally distributed "where moors, mountains, and exposed heathy places are found" in the British Islands. There are vast tracts of moorland, even in Yorkshire, where it appears to be very scarce or indeed absent altogether. A few years ago I spent my holidays about Whitby, making Goathland my centre, and passed much of my time on the moors without finding a single nest. I tramped from Goathland to Robin Hood Bay, which is practically moorland all the way without seeing a single bird; all the other characteristic moor birds were there, *viz.*, Ring-Ouzel, Curlew, Golden Plover, Titlark, &c. I also spent a few days in Wales a few years ago with Mr. Forrest, H. B. Booth, and Rosse Butterfield, much of the time being passed on the moors, which seemed to be ideal breeding-places for the Twite, but we failed to find its nest, although our mission had been organized chiefly in the hope of doing so.—E. P. BUTTERFIELD (Bank House, Wilsden).

Greenland Falcon (*Falco candicans*) in Co. Antrim.—This rare arctic species was obtained above Carrickfergus, on the Knockagh, on Feb. 12th, by Mr. Paul Logan. It was brought to Mr. Sheals, of Corporation Street, Belfast, by Mr. Patterson, where it has been beautifully mounted, and where I had the pleasure of examining it on Feb. 17th. It proved on dissection to be a male, the stomach containing a half-digested Lark. It is in fine white plumage, with black markings. It is set up in the life-like attitude which we know so well from photographs of Peregrines and other birds of prey kept for hawking; so many taxidermists draw out their specimens when setting up, thus taking away the natural compact form of a bird. There have been in all twenty-nine records of Greenland Falcons in Ireland, only two of which were obtained in Co. Antrim, the west coast being their natural landfall. For further particulars, *cf.* "Nature Notes," 'Northern Whig,' Feb. 17th; and for account of the 1905 invasion, *cf.* 'Irish Naturalist' for that year.—W. H. WORKMAN (Lismore, Windsor, Belfast).

Colour of Eyes in *Fuligula nyroca*.—I have read Mr. Bird's remarks (*ante*, p. 75) on the colour of the irides in the immature white-eyed

Pochard recently examined by him, and I am much interested in what he says. I find that the large majority of authors who describe this species say nothing at all about the colour of the irides in the females and young birds. Personally, I should expect to find the eyes brown in immature birds. It may be of interest to Mr. Bird and other of your readers to know that my friend Mr. Robinson, of Lancaster, handled a female Tufted Duck some few years back, in which the irides were quite white. At the time he was inclined to think this Duck, which was shot at the mouth of the River Lune just above Glasson Dock, to be a white-eyed Pochard, from the colour of its eyes; and, to satisfy himself, he forwarded the bird to Mr. Eagle Clarke, of the Edinburgh Museum. Mr. Clarke pronounced it to be undoubtedly a Tufted Duck (*Fuligula cristata*), but was quite at a loss to account for the white eyes. I can fully endorse all Mr. Bird says with respect to the eye in the adult male Pochard (*F. ferina*). The colour most certainly does fade very rapidly to yellow after life is extinct. I think Mr. J. W. Harting is very happy in his description of the colour of the irides in this species, and I quote the following extract from his 'Handbook to British Birds,' new edition, p. 250:—"Having shot many of these Ducks at various times, and occasionally as late in the spring as the end of March, I have noticed that the colour of the iris varies with age. In the young bird it is pale yellow; in an older bird, orange; in a fine adult male, crimson; but the colour has been observed to change from red to yellow from excitement (see Stevenson, 'Birds of Norfolk,' vol. iii. p. 207)."—FRED SMALLEY (Challan Hall, Silverdale, Lanes).

With reference to the note, on the eyes of *Fuligula nyroca*, of the Rev. M. C. H. Bird (*ante*, p. 75), I find that Naumann ('Naturgeschichte der Vögel Mittel-Europas,' vol. x. p. 183, new edition) writes as follows (I translate roughly):—"The small and sparkling eye has in the quite young bird a grey-brown, then a dark brown iris, which presently becomes ringed with ash-grey. It then turns light grey, and with increasing age pearl-white; so that in the male it is in the second year, in the female not till the third year, that the eye displays this distinctive luminous colour, from which the species obtains its name of White-eyed Duck."—W. B. NICHOLS (Stour Lodge, Bradfield, Manningtree).

King-Eider ♀ (*Somateria spectabilis*) in Orkney. — On Feb. 28th, in response to a letter from Mr. Robinson, I went to Lancaster to examine an Eider which he had just received in the flesh from Stromness, Orkney. On seeing the bird I was at once able to pronounce Mr. Robinson to have correctly identified it. I found it to be a King-Eider without the question of a doubt. The specimen was

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shot off the island of Graemsey by Mr. S. Sutherland of that place, and forwarded to Mr. Robinson. It is a remarkably fine adult female. Measurements: Length, 23 in.; culmen, measured from the anterior edge of the feathered wedge running on to the ridge of the culmen to the tip of the beak, 1.25 in. Head, chin, and throat buff, streaked with brown; cheeks lighter buff; breast and sides buff, with irregular markings; greater coverts and secondaries black, two narrow white bars on wing; back rich rufous brown, with semicircular black bars; elongated scapulars very rich rufous brown; under parts dark dusky brown; bill dark (probably became darker after death); legs and feet ochre, webs dusky. A shot-pellet had pierced both eyes and completely destroyed them, and I was unable to determine the colour of the iris. Am I right in supposing it would be dark brown? Perhaps some of your readers would be able to enlighten me on this point. Mr. Harting, in his 'Handbook to British Birds,' new edition, p. 465, gives eighteen authentic records of this species in British waters, but I am inclined to think he has omitted two, if not more, authentic occurrences, namely, the specimen in the Edinburgh Museum, shot at Tents Muir in 1872 (I believe I am correct in the date, but I quote from memory), and also the young male King-Eider which Mr. J. G. Millais saw off the Churchyard Rocks, Pomona, Orkney, in the spring of 1883, and which he twice set to, but failed to secure (see Mr. Millais's book, 'The Wild-fowler in Scotland,' pp. 138, 139, 140). I have no reason to suppose that so competent a naturalist as Mr. Millais was wrong in his identification of this bird, especially taking into consideration that he was near enough to it to distinctly note the curious shape of the head, characteristic of the male King-Eider.—FRED SMALLEY (Challan Hall, Silverdale, Lancs).

**Ornithological Notes from Surrey.**—On Feb. 17th a Gannet (*Sula bassana*) was seen on the River Wey between Eashing and Godalming. It had evidently been wounded. A Hen-Harrier (*Circus cyaneus*) was shot during the early part of February in the neighbourhood of Godalming by a man who was shooting Wood-Pigeons. The Harrier swooped down on one of the stuffed decoy Pigeons, and was in the act of carrying it off when shot. There were a pair, the female bird only being secured. I am pleased to be able to state that the Brown or Wood-Owl (*Syrnium aluco*) is steadily on the increase, and—round Godalming, at least—may be considered quite common. On Feb. 17th I counted fifteen Tufted Ducks (*Fuligula cristata*) on the Hammer Ponds, at Thursley. They remained there for several days. On the same piece of water, and on the same date, a pair of Little Grebes (*Podiceps*



*fluviatilis*) were in full breeding plumage. On Feb. 21st the Herons (*Ardea cinerea*) in Richmond Park were back on their old nests, and on the same day I noticed one Great Crested Grebe (*Podiceps cristatus*) on the Penn Ponds; but on the morning of the 22nd I found it had left, owing perhaps to the fact that most of the water was covered with ice.—GORDON DALGLIESH (Eashing, Godalming, Surrey).

Interesting Birds in Yarmouth Market.—One hardly knows whether to express regret, or satisfaction, at the remarkable falling off in the numbers of certain birds brought, winter by winter, to the market-place. Decreased slaughter, unfortunately in our case, implies fewer birds to be slain rather than a lessened desire to kill. Those who will refer to my notes on this subject in the "Birds of Yarmouth" (Zool. 1900, pp. 164-167)\* will read of a marked falling off in a period of twenty years, a decrease which has since been accentuated from year to year. The altered conditions of the country round about Yarmouth have greatly to do with this local reduction in birds seen and shot. Another factor in our barer market is the lessened interest taken in wild birds by those who employ a cook, and certain birds which had attractions for the local epicure a decade or so ago may hang for days, indeed, until they fairly rot, and be finally pitched into the refuse-box. At the time of writing a Pink-footed Goose (*Anser brachyrhynchus*), that in the old days would have been "snapped up," now hangs by one leg on a string, after having been suspended for a number of days the reverse way; and it is the matter of only a day or two longer to see the game-dealer's penknife cut it down! Such has been the fate of Curlews, Knots, Pochards, and a number of others; and so slow a sale exists usually that those few gunners who used to sell their odd fowl just to cover a fresh supply of ammunition scarcely trouble to bring anything to the dealer. And there is but one man now who follows Breydon professionally with a punt-gun—one Fred Clarke, a hardy son of the marshes, who spends his days in Eel-picking, millwrighting (when there is any to do), and in assisting the marsh-farmers generally. He gives over everything else when there are a few wildfowl "driven in," and his wife, who trots round with them in a basket, disposes of his game to the certain limited circle of acquaintances, who purchase her wares more as a *bonne bouche* than a necessary article of diet. All ornithologists who visit Breydon should look up "Fred," who lives four-fifths of his days, and more than that of his nights, in a little Noah's ark, not far from mine, on Banham's Rond. He is full of birdy reminiscences, and an enthusiast in his way. Woodcocks, for

\* And more enlarged upon in 'Nature in Eastern Norfolk.'

which there is usually a fair sale, have been conspicuously rare in the market during the past season, the first one appearing there on Sept. 29th (1905). The greatest number in any one day was five. Golden Plovers were in some numbers on Breydon during the first half of October—a rather unusual resort of this marsh-loving species. A few appeared in the market. Two young male Shovelers on a stall, Oct. 19th. An immigration of Lapwings must have taken place at the beginning of November; quite a glut of them in the market, bunches festooning many a countryman's stall on the 4th. No bird, with the exception of the Wood-Pigeon, so stirs the sporting instincts of the lowland farmer, who, for the sake of a little sport and the few coppers added to his Saturday's takings, ruthlessly slaughters his best bird-friend. Again, on the 25th, was the market glutted with "Peewits." Snipe have been scarce all the winter, and a very slow sale has existed for those that were brought in. Duck and Mallard, on the other hand, have been at times plentiful, and met with a fairly ready sale. An unusual number of dead Moorhens on Dec. 30th. Jan. 6th (1906), plenty of Wild Duck and Mallard in the market; a few Snipe, bunches of Blackbirds, and one Bean-Goose (*Anser segetum*). So rarely do Geese turn up in the market that *individual* occurrences find a place in my note-book! The stalls were festooned on Jan. 27th with strings of Wood-Pigeons, the majority of them indifferently plumaged "foreigners." They had been, mostly, industriously feeding on the clover-leys. Earlier in the winter acorns were the usual thing to find in their crops; in February they divided their attention between the clover and the turnip-tops. A number of Stock-Doves were mixed with their larger relatives on Feb. 10th, and on one other occasion I observed some. There was not a brisk sale for the Pigeons, the market-folk preferring to take them home again rather than sell at a reasonable price, eightpence each being asked for very indifferent examples. And one I purchased, with others, in a promiscuous sort of way, would have been dear at a gift, for it must have been brought to market week by week all the season, if I may judge by the condition I subsequently found it in.—A. H. PATTERSON (Ibis House, Great Yarmouth).

## OBITUARY.

## EDWARD WILLIAMS.

THE death of Mr. Edward Williams, of Dublin, which took place on Dec. 15th last, has been very deeply regretted. He was a man of much natural talent and artistic skill, born with a love for the study of nature, coupled with a strong desire to mount specimens in the most life-like attitudes possible. As a taxidermist, Williams was practically a self-taught man, originating many methods of his own. As a child of ten he could mount small birds, and before reaching manhood could produce work of a professional character. When little more than twenty he gave up his original business, and made taxidermy not merely a hobby, but a means of livelihood. He was exceptionally successful in his career, being recognized for the past quarter of a century as a taxidermist of the first water. He was the designer of the life-groups in the National Museum, Dublin, and the loss which that institution has sustained by his death is very great indeed. Williams was passionately fond of birds; he used to sit for hours watching their habits, both in a state of nature, and in captivity in a well-stocked aviary which he possessed. He was one of the highest authorities on the habits and occurrences of Irish birds, and the many notes and papers which he has published have been found useful and trustworthy to compilers.

Edward Williams possessed a sweet personality, his friendship was absolutely sincere, and his kind and earnest features will remain stamped indelibly in the memories of those who knew him. He passed away in his fifty-seventh year, after a very brief and painless illness.

C. J. P.

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 THE REV. JOSEPH GREENE, M.A.

THIS well-known British lepidopterist recently passed away at his residence, Rostrevor, Clifton, Bristol, at the age of eighty-two. He was an old contributor to 'The Zoologist,' writing in these pages as long ago as 1850; but it was in the volume for 1857 (p. 5382) that his well-known paper "On Pupa Digging" appeared, a publication which is still the best and most consulted on the subject.

## NOTICES OF NEW BOOKS.

*The Geese of Europe and Asia.* By SERGIUS ALPHÉRAKY, with coloured plates by F. W. FROHAWK, &c. Rowland Ward, Limited.

THIS work is a translation of the author's 'Gusi Rossii,' published in Russia in 1904, and is a valuable contribution to the complicated question of the identification of the *Anserinae*; and as the author is not disposed to lay too much dependence on the dimension of the bill as a specific character, and which he regards as largely dependant on age, and also practises the greatest caution in using the colouring of the bill for the same purpose, he is notably at difference with some other students. Thus he disagrees entirely with Mr. Coburn's conclusion that the *Anser rubirostris*, Swinhoe, is a distinct species (cf. 'Zoologist,' 1903, p. 46), and states "that this so-called species has no existence." On the other hand, referring to Mr. Coburn's paper "On the specific validity of *Anser gambeli* (Hartlaub) and its position as a British bird" (cf. 'Zoologist,' 1902, p. 337), he remarks, "A careful study of the article in question has, however, failed to convince me that the Geese taken by the author for *gambeli* really belonged to that American variety of the White-fronted Goose," and the argument used in support of that objection must be sought at pp. 56-57. Then, again, he dissents from the view of the late Mr. Seebohm, that *Melanonyx brachyrhynchus* was only a slight variety of *M. segetum*, an opinion also shared by the late Mr. Cordeaux; and as his discussion of the question is full and interesting, it will be seen that the British ornithologist will find very much for his consideration in these pages.

There are two appendices, one by Mr. G. F. Göbel on the Eggs of Russian Geese; the other an Extract from the Diary of the Visit to Kolguev in 1892 of Mr. S. A. Buturlin. The twenty-four coloured plates contributed by Mr. Frohawk quite sustain the



reputation of that artist; and there is also a coloured frontispiece by Dr. P. P. Sushkin depicting Geese on Kairan-Kul, Turgai Territory, which will attract the wildfowler as well as the ornithologist.

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*The Zoological Society of London; a sketch of its foundation and development, &c.* By HENRY SCHERREN, F.Z.S. Cassell & Co., Limited.

THIS book describes the evolution of a Society which has now become a well-known British institution; its rooms are the rendezvous of zoologists, its proceedings and transactions are a zoological library in themselves, and its gardens beyond their legitimate province have become a national holiday resort. Since its foundation, all contemporary zoologists have more or less been connected with it, so that the material for a really good book was available. The author has chosen a somewhat official method of dealing with his subject, but he has given its history so that we can always use the book for reference, while the account of the acquisitions to the gardens gives us data by which we may gather information in numerous instances of the time of our first knowledge of many animals. We need not discuss the question as to the real promoter of the Society, to which some prominence is given; rightly or wrongly, to ourselves, as to many others, the name of Sir Stamford Raffles will always be attached to that distinguished position, though his early death caused its foundations to be completed by other and able hands. In reading these pages, one is struck by the number of distinguished men who have guided the affairs of this Society, and notice is necessarily attracted to the strong man who, as Secretary for so many years, did so much for its stability, while, like all strong men, he made not only many friends, but some adversaries.

Among the animals that have lived in the Gardens, some will never be seen again. The Quagga has twice been on view at Regent's Park; while we read that in 1861 the Society's agent in Cape Colony "expressly barred Quaggas" in his offers for South African specimens. But, on the other hand, we may yet see a living Okapi! The illustrations are numerous, some by

Joseph Wolf; those depicting the Gardens in early days are good object-lessons when compared with the vast improvements made and being made under the present able management. The hope expressed by the author that the book may be of permanent value is already fulfilled.

*More Natural History Essays.* By GRAHAM RENSHAW, M.B.,  
F.Z.S. Sherratt & Hughes.

DR. RENSHAW has given us a companion or supplementary volume to his 'Natural History Essays,' previously noticed in these pages, and as the subject is practically inexhaustible, and the author is an enthusiast on his subject, we may expect in time to possess a series of these volumes. Dr. Renshaw has restricted his material to mammals, but these are not confined to the continent of Africa, as was the case in his other volume. The great interest in these essays—in fact we may say their special feature—is to be found in the number of interesting notes and references, both bibliographical and statistical, which are centred round each species. Thus we have, as a rule, an account of the first discovery of the animal, and some personal incidents relating to the naturalist or hunter who obtained the specimen; references are given to the museums in which examples are contained, while much information has been collated from old and now little-read books, so that the pages contain a quantity of information in a condensed form which is of considerable referential value, and not to be so readily gleaned elsewhere. In these pages popular writers on the subject will find good quarry, and we expect to subsequently meet with considerable reincarnation of the author's material in what may be now described as zoological journalism.

Dr. Renshaw, as a rule, has confined himself to facts, and has eschewed theory; the almost only instance of the latter will be found at the commencement of the essay on the Antarctic Wolf, where there occurs a long paragraph on the influence of environment upon the size of animals, in which it is contended that "from the mere external characters and dimensions of an adult of any species one can approximately guess its habits."

